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10/767,371	01/30/2004	Hideyuki Suzuki	248270US6	4892

			EXAMINER
22850	7590	07/25/2006	SHEDRICK, CHARLES TERRELL

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ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/767,371	SUZUKI, HIDEYUKI
	Examiner	Art Unit
	Charles Shedrick	2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/9/06*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-16* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)	5) ☐ Notice of Informal Patent Application (PTO-152)
Paper No(s)/Mail Date _____ .	6) ☐ Other: _____ .

1.   The Art Unit location of your application in the USPTO has changed. To aid in
correlating any papers for this application, all further correspondence regarding this application
should be directed to Art Unit 2617.

DETAILED ACTION

2.   Applicant's arguments with respect to claims 3-16 have been considered but are moot in

view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness
        or nonobviousness.

Claims **3,6,** and **11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimizu (US**

Patent Pub. No.: 2002/0196764 A1) in view of Gehrmann **US Patent No. 6,912,657 B2**

        Consider **claim 3**, Shimizu teaches a terminal comprising: a key management list table

having at least one key management list in which authentication header keys with respect to

other terminals are held in such a manner as to correspond to the terminal identifiers of said other

terminals (**paragraphs 0018, 0052-0056**); means for searching said key management list for said key management list containing the transmission terminal identifier of a received frame in order to extract said corresponding authentication header key (**abstract, paragraphs 0018, 0052-0056 and figures 4 and 5**) ; and means for confirming whether or not the authentication header of said frame is valid by using said extracted authentication header key (**paragraphs 0018, 0052-0056,0065-0076**) .

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network (**i.e., see at least col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-35, col. 6 lines 1-10, and col. 8 lines 7-22**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu such that an ad hoc network is established temporary for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes within the network are often mobile and using radio links. An ad hoc network might constitute dynamic wide area connectivity in situations such as military operations, rescue and recovery operations, and remote construction sites. An ad hoc network might also constitute local area connectivity in situations such as temporary conference sites, home networks and robot networks. An ad hoc network might also constitute personal area networks in situations such as interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g. mobile phones, lap tops, television sets, washing machines In some situations like in military operations or business conferences when the communication between the nodes comprises

secrets, it is very important that a sender of a message can trust that the receiver really is the

intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16**.

Consider **claim 6**, Shimizu teaches a terminal comprising: a key management list table

having at least one key management list for holding an authentication header key with respect to

another terminal in such a manner as to correspond to the terminal identifier of said other

terminal (**figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-0056**); means for searching said

key management list table for said key management list containing the reception terminal

identifier of a frame to be transmitted in order to generate an authentication header by using said

corresponding authentication header key and for giving the authentication header to said frame;

and means for transmitting said frame(**figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-
0056**).

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network (**i.e., see at least
col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-
35, col. 6 lines 1-10, and col. 8 lines 7-22**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu such that an ad hoc network is established temporary

for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes

within the network are often mobile and using radio links. An ad hoc network might constitute

dynamic wide area connectivity in situations such as military operations, rescue and recovery

operations, and remote construction sites. An ad hoc network might also constitute local area

connectivity in situations such as temporary conference sites, home networks and robot

networks. An ad hoc network might also constitute personal area networks in situations such as

interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g.

mobile phones, lap tops, television sets, washing machines In some situations like in military

operations or business conferences when the communication between the nodes comprises

secrets, it is very important that a sender of a message can trust that the receiver really is the

intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16**.

Consider **claim 11** Shimizu teaches an authentication method for use in a terminal having

a key management list table having at least one key management list for holding authentication

header keys with respect to other terminals in such a manner as to correspond to the terminal

identifiers of said other terminals (**abstract, paragraphs 0018, 0052-0056 and figures 4 and

5**), said authentication method comprising the steps of: searching said key management list table

for said key management list containing the transmission terminal identifier of a received frame

in order to extract said authentication header key(**figures 3-5, paragraphs 0014, 0017-0018,

0020,0052-0056**); and confirming whether or not the authentication header of said frame is valid

by using said extracted authentication header key(**figures 3-5, paragraphs 0014, 0017-0018,

0020,0052-0056**).

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network (**i.e., see at least

col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-

35, col. 6 lines 1-10, and col. 8 lines 7-22**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu such that an ad hoc network is established temporary

for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes

within the network are often mobile and using radio links. An ad hoc network might constitute

dynamic wide area connectivity in situations such as military operations, rescue and recovery

operations, and remote construction sites. An ad hoc network might also constitute local area

connectivity in situations such as temporary conference sites, home networks and robot

networks. An ad hoc network might also constitute personal area networks in situations such as

interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g.

mobile phones, lap tops, television sets, washing machines In some situations like in military

operations or business conferences when the communication between the nodes comprises

secrets, it is very important that a sender of a message can trust that the receiver really is the

intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16.**

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimizu (US Patent Pub.**

No.: 2002/0196764 A1) in view of in view of Gehrmann **US Patent No. 6,912,657 B2** and

further in view of **(Lockart et al. US Patent No.: 6,229,806 B1 hereinafter "Lockart").**

Consider **claim 4** and **as applied to claim 3**, Shimizu as modified by Gehrmann teaches a

terminal according to claim 3, further comprising: a path table having at least one path list for

holding a transfer destination terminal identifier for causing a frame to arrive at another terminal

in such a manner as to correspond to the terminal identifier of the other terminal **(paragraphs**

0018, 0052-0056 and figures 4 and 5); and means for searching said path table for said path list

containing an end-point terminal identifier and transmitting said frame to said transfer

destination terminal identifier when said authentication header is valid **(paragraphs 0018, 0052-**

0056 and figures 4 and 5) and the end-point terminal identifier of said frame is not the terminal

identifier of the other terminal **(paragraphs 0018, 0052-0056 and figures 4 and 5)**

However, Shimizu as modified by Gehrmann does not teach discarding said frame when

said authentication header is not valid.

In the same field of endeavor, Lockart teaches discarding said frame when said

authentication header is not valid **(col. 3 lines 40-45, lines 55-60 and figure 3)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify Shimizu as modified by Gehrmann to include discarding frames

as taught by Lockart for the purpose of a more efficient authentication procedure.

Claims **5,7, and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimizu (US**

Patent Pub. No.: 2002/0196764 A1) in view of Gehrmann **US Patent No. 6,912,657 B2** and

further in view of **O'Brien (US Patent Pub. No.: US 2004/0022931 A1)**

Consider **claim 5**, Shimizu teaches a terminal comprising: a key management list table

having at least one key management list for holding an authentication header key and a unicast

encryption key with respect to another terminal in such a manner as to correspond to the terminal

identifier of said other terminal **(figures 3-5, paragraphs 0014, 0018, 0020,0052-0056)**; means

for searching said key management list table for said key management list containing the

transmission terminal identifier of a received frame in order to extract said corresponding

authentication header key **(figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-0056)**; means

for confirming whether or not the authentication header of said frame is valid by using said

extracted authentication header key**(paragraphs 0013, 0018,0065-0066,0071,0074)**; means for

searching said key management list table for said key management list containing a start-point

terminal identifier of said frame in order to extract said corresponding unicast encryption key

when said authentication header is valid and the end-point terminal identifier of said frame is the

terminal identifier of the other terminal (**figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-**

0056).

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network (**i.e., see at least**

col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-

35, col. 6 lines 1-10, and col. 8 lines 7-22).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu such that an ad hoc network is established temporary

for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes

within the network are often mobile and using radio links. An ad hoc network might constitute

dynamic wide area connectivity in situations such as military operations, rescue and recovery

operations, and remote construction sites. An ad hoc network might also constitute local area

connectivity in situations such as temporary conference sites, home networks and robot

networks. An ad hoc network might also constitute personal area networks in situations such as

interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g.

mobile phones, lap tops, television sets, washing machines In some situations like in military

operations or business conferences when the communication between the nodes comprises

secrets, it is very important that a sender of a message can trust that the receiver really is the

intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16.**

However, Shimizu as modified by Gehrmann does not teach means for decrypting the payload of said frame by using said extracted unicast encryption key.

In the same field of endeavor, O'Brien teaches means for decrypting the payload of said frame by using said extracted unicast encryption key (**abstract, paragraphs 0010, 0031, 0035, and 0045**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu as modified by Gehrmann to include the invention as taught by O'Brien for the purpose of securing information.

Consider **claim 7**, Shimizu teaches a terminal comprising: a key management list table having at least one key management list for holding authentication header keys and unicast encryption keys with respect to other terminals in such a manner as to correspond to the terminal identifiers of said other terminals (**figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-0056**); means for searching said key management list table for said key management list containing the reception terminal identifier of a frame to be transmitted in order to generate an authentication header by using said corresponding authentication header key and for giving the authentication header to said frame(**figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-0056**); means for searching said key management list table for said key management list containing the end-point terminal identifier of said frame and means for transmitting said frame(**figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-0056**).

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network (**i.e., see at least col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-35, col. 6 lines 1-10, and col. 8 lines 7-22**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu such that an ad hoc network is established temporary for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes within the network are often mobile and using radio links. An ad hoc network might constitute dynamic wide area connectivity in situations such as military operations, rescue and recovery operations, and remote construction sites. An ad hoc network might also constitute local area connectivity in situations such as temporary conference sites, home networks and robot networks. An ad hoc network might also constitute personal area networks in situations such as interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g. mobile phones, lap tops, television sets, washing machines In some situations like in military operations or business conferences when the communication between the nodes comprises secrets, it is very important that a sender of a message can trust that the receiver really is the intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16.**

However, Shimizu as modified by Gehrmann does not teach means for encrypting the payload of said frame by using said corresponding unicast encryption key.

In the same field of endeavor, O'Brien teaches means for encrypting the payload of said frame by using said extracted unicast encryption key (**abstract, paragraphs 0010, 0031, 0035, and 0045**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu as modified by Gehrmann to include the invention as

taught by O'Brien for the purpose of securing information.

Consider **claim 13**, Shimizu teaches an encryption method for use in a terminal having a

key management list table having at least one key management list for holding authentication

header keys and unicast encryption keys with respect to other terminals in such a manner as to

correspond to the terminal identifiers of said other terminals (**figures 3-5, paragraphs 0014,

0017-0018, 0020,0052-0056**), said encryption method comprising the: searching said key

management list table for said key management list containing the transmission terminal

identifier of a received frame in order to extract said authentication header key(**figures 3-5,

paragraphs 0014, 0017-0018, 0020,0052-0056**); confirming whether or not the authentication

header of said frame is valid by using said extracted authentication header key(**paragraphs

0013, 0018,0065-0066,0071,0074**); searching said key management list table for said key

management list containing the start-point terminal identifier of said frame when said

authentication header is valid and the end-point terminal identifier of said frame is the terminal

identifier of the corresponding terminal in order to extract said corresponding unicast encryption

key(**figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-0056**).

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network (**i.e., see at least

col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-

35, col. 6 lines 1-10, and col. 8 lines 7-22**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu such that an ad hoc network is established temporary for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes within the network are often mobile and using radio links. An ad hoc network might constitute dynamic wide area connectivity in situations such as military operations, rescue and recovery operations, and remote construction sites. An ad hoc network might also constitute local area connectivity in situations such as temporary conference sites, home networks and robot networks. An ad hoc network might also constitute personal area networks in situations such as interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g. mobile phones, lap tops, television sets, washing machines In some situations like in military operations or business conferences when the communication between the nodes comprises secrets, it is very important that a sender of a message can trust that the receiver really is the intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16.**

However, Shimizu as modified by Gehrmann does not teach means for decrypting the payload of said frame by using said extracted unicast encryption key

In the same field of endeavor, O'Brien teaches means for decrypting the payload of said frame by using said extracted unicast encryption key (**abstract, paragraphs 0010, 0031, 0035, and 0045**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu as modified by Gehrmann to include the invention as taught by O'Brien for the purpose of securing information.

Claims **8 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimizu**

(US Patent Pub. No.: 2002/0196764 A1) in view of Gehrmann **US Patent No. 6,912,657 B2**

and further in view of **(Ocepek et al. US Pub No.: 2004/0049586 A1, "Ocepek" hereinafter)**

and further in view of **(Ibi et al. US Pub. No.: 2003/0118189A1, "Ibi" hereinafter)**.

Consider **claim 8** Shimizu teaches a terminal comprising: a neighboring terminal list

table for holding the terminal identifier of another terminal with which direct communication is

possible among the terminals which form a network **(abstract, paragraphs 0017-0018,**

0051nad 0052); a key management list table having at least one key management list for holding

an authentication header key with respect to another terminal in such a manner as to correspond

to the terminal identifier of the other terminal which forms said network **(figures 3-5,**

paragraphs 0014, 0017-0018, 0020,0052-0056).

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network **(i.e., see at least**

col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-

35, col. 6 lines 1-10, and col. 8 lines 7-22).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu such that an ad hoc network is established temporary

for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes

within the network are often mobile and using radio links. An ad hoc network might constitute

dynamic wide area connectivity in situations such as military operations, rescue and recovery

operations, and remote construction sites. An ad hoc network might also constitute local area

connectivity in situations such as temporary conference sites, home networks and robot

networks. An ad hoc network might also constitute personal area networks in situations such as

interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g.

mobile phones, lap tops, television sets, washing machines In some situations like in military

operations or business conferences when the communication between the nodes comprises

secrets, it is very important that a sender of a message can trust that the receiver really is the

intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16.**

However, Shimizu as modified by Gehrmann does not disclose means for, when a

leaving from said network occurs at the terminals whose terminal identifiers are held in said

neighboring terminal list table, deleting from said key management list table said key

management list containing the terminal identifier of the terminal that has left the network.

In the same field of endeavor, Ocepek teaches when a leaving from said network occurs

at the terminals whose terminal identifiers are held in said neighboring terminal list table the

terminal identifier of the terminal that has left the network (**see figures 14 and 15, paragraphs**

0037, 00055, 0066,0068,0074, and 0075).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu as modified by Gehrmann to include the invention of

Ocepek for the purpose of access control.

However, Shimizu as modified by Gehrmann and further modified by Ocepek does not

teach deleting from said key management list table said key management list.

In the same field of endeavor, Ibi teaches deleting from said key management list table

said key management list (**figures 5,19 and 20, paragraphs 0151-0154)**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu as modified by Gehrmann and further modified by

Ocepek to include the invention as taught by Ibi for the purpose of processing encryption

functions.

Consider **claim 16**, Shimizu teaches a terminal management method for use in a terminal

having at least one key management list for holding authentication headers with respect to other

terminals in such a manner as to correspond to the terminal identifiers of the other terminals

which form the network **(figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-0056)**.

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network **(i.e., see at least**

col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-

35, col. 6 lines 1-10, and col. 8 lines 7-22).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu such that an ad hoc network is established temporary

for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes

within the network are often mobile and using radio links. An ad hoc network might constitute

dynamic wide area connectivity in situations such as military operations, rescue and recovery

operations, and remote construction sites. An ad hoc network might also constitute local area

connectivity in situations such as temporary conference sites, home networks and robot

networks. An ad hoc network might also constitute personal area networks in situations such as

interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g.

mobile phones, lap tops, television sets, washing machines In some situations like in military

operations or business conferences when the communication between the nodes comprises secrets, it is very important that a sender of a message can trust that the receiver really is the intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16.**

However, Shimizu as modified by Gehrmann does not disclose means for, when a leaving from said network occurs at the terminals whose terminal identifiers are held in said neighboring terminal list table, deleting from said key management list table said key management list containing the terminal identifier of the terminal that has left the network.

In the same field of endeavor, Ocepek teaches when a leaving from said network occurs at the terminals whose terminal identifiers are held in said neighboring terminal list table the terminal identifier of the terminal that has left the network (**see figures 14 and 15, paragraphs 0037, 00055, 0066,0068,0074, and 0075**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu as modified by Gehrmann to include the invention of Ocepek for the purpose of access control.

However, Shimizu as modified by Gehrmann and further modified by Ocepek does not teach deleting from said key management list table said key management list.

In the same field of endeavor, Ibi teaches deleting from said key management list table said key management list (**figures 5,19 and 20, paragraphs 0151-0154**)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu as modified by Gehrmann and further modified by Ocepek to include the invention as taught by Ibi for the purpose of processing encryption functions.

Claim **9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimizu (US Patent Pub. No.: 2002/0196764 A1)** in view of Gehrmann **US Patent No. 6,912,657 B2** and further in view of **(Ocepek et al. US Pub No.: 2004/0049586 A1, "Ocepek" hereinafter)** and further in view of **(Ibi et al. US Pub. No.: 2003/0118189A1, "Ibi" hereinafter)** and further in view of **(Meier US Patent No.: 6,847,620 B1)**

Consider **claim 9** and **as applied to a terminal according to claim 8**, Shimizu as modified by Gehrmann and further modified by Ocepek and further modified by Ibi teaches the claimed invention except further comprising means for transmitting a terminal leaving message for informing the terminal identifier of said terminal that has left the network to the other terminals which form said network in a case where the terminal whose terminal identifier is held in said neighboring terminal list table leaves the network.

However, In the same field of endeavor, Meier teaches means for transmitting a terminal leaving message for informing the terminal identifier of said terminal that has left the network to the other terminals which form said network in a case where the terminal whose terminal identifier is held in said neighboring terminal list table leaves the network **(column 5 lines 39 – 65)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu as modified by Gehrmann and further modified by Ocepek and further modified by Ibi to the include the invention taught by Meier for the purpose of efficient networking.

Claim **10** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimizu (US Patent Pub. No.: 2002/0196764 A1)** in view of Gehrmann **US Patent No. 6,912,657 B2** and further in

view of (**Meier US Patent No.: 6,847,620 B1**) and further in view of (**Ibi et al. US Pub. No.:**

2003/0118189A1, "Ibi" hereinafter) and further in view of (**Ocepek et al. US Pub No.:**

2004/0049586 A1, "Ocepek" hereinafter)

Consider **claim 10** Shimizu teaches a terminal comprising: a key management list table

having at least one key management list for holding authentication header keys with respect to

other terminals in such a manner as to correspond to the terminal identifiers of the other

terminals which form a network (**figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-0056**).

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network (**i.e., see at least**

col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-

35, col. 6 lines 1-10, and col. 8 lines 7-22).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu such that an ad hoc network is established temporary

for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes

within the network are often mobile and using radio links. An ad hoc network might constitute

dynamic wide area connectivity in situations such as military operations, rescue and recovery

operations, and remote construction sites. An ad hoc network might also constitute local area

connectivity in situations such as temporary conference sites, home networks and robot

networks. An ad hoc network might also constitute personal area networks in situations such as

interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g.

mobile phones, lap tops, television sets, washing machines In some situations like in military

operations or business conferences when the communication between the nodes comprises

secrets, it is very important that a sender of a message can trust that the receiver really is the
intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16.**

However, Shimizu as modified by Gehrmann does not teach means for, when a terminal
leaving message informing the terminal identifier of the terminal which has left said network is
received, deleting from said key management list table said key management list containing the
terminal identifier of the terminal that has left the network.

However, In the same field of endeavor, Meier teaches when a terminal leaving message
informing the terminal identifier of the terminal which has left said network is received. **(column
5 lines 39 –65)**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time
the invention was made to modify Shimizu as modified by Gehrmann to the include the
invention taught by Meier for the purpose of efficient networking

However, Shimizu as modified by Gehrmann and further modified by Meier does not
teach deleting from said key management list table said key management list containing the
terminal identifier of the terminal that has left the network.

In the same field of endeavor, Ibi teaches deleting from said key management list table
said key management list **(figures 5,19 and 20, paragraphs 0151-0154)**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time
the invention was made to modify Shimizu as modified by Gehrmann and further modified by
Meir to include the invention as taught by Ibi for the purpose of processing encryption functions.

However, Shimizu as modified by Gehrmann and further modified by Meier as further

modified by Ibi does not teach deleting from list containing the terminal identifier of the terminal

that has left the network.

In the same field of endeavor, Ocepek teaches when a leaving from said network occurs

at the terminals whose terminal identifiers are held in said neighboring terminal list table the

terminal identifier of the terminal that has left the network (**see figures 14 and 15, paragraphs**

0037, 00055, 0066,0068,0074, and 0075).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu as modified by Gehrmann and further modified by

Meier as further modified by Ibi to include the invention of Ocepek for the purpose of access

control.

Claims **12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimizu (US**

Patent Pub. No.: 2002/0196764 A1) in view of Gehrmann **US Patent No. 6,912,657 B2** and

further in view of **(Nuutinen U.S. 2002/0129236 A1)**

Consider claims **12 and 14**, Shimizu teaches an authentication and encryption method for use in

a terminal having a key management list table having at least one key management list for

holding authentication header keys with respect to other terminals in such a manner as to

correspond to the terminal identifiers of said other terminals (**figures 3-5, paragraphs 0014,**

0017-0018, 0020,0052-0056), said authentication method comprising the steps of: searching said

key management list table for said key management list containing the transmission terminal

identifier of a received frame in order to extract said authentication header key(**figures 3-5,**

paragraphs 0014, 0017-0018, 0020,0052-0056).

However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network (**i.e., see at least col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60, col. 5 lines 33-35, col. 6 lines 1-10, and col. 8 lines 7-22**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu such that an ad hoc network is established temporary for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes within the network are often mobile and using radio links. An ad hoc network might constitute dynamic wide area connectivity in situations such as military operations, rescue and recovery operations, and remote construction sites. An ad hoc network might also constitute local area connectivity in situations such as temporary conference sites, home networks and robot networks. An ad hoc network might also constitute personal area networks in situations such as interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g. mobile phones, lap tops, television sets, washing machines In some situations like in military operations or business conferences when the communication between the nodes comprises secrets, it is very important that a sender of a message can trust that the receiver really is the intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16.**

However Shimizu as modified by Gehrmann does not teach generating a keyed hashed value, in which said extracted authentication header key is hashed together with a predetermined area of said frame; and confirming whether or not said authentication header is valid by comparing said keyed hashed value with the authentication header of said frame.

In the same field of endeavor, Nuutinen teaches generating a keyed hashed value, in which said extracted authentication header key is hashed together with a predetermined area of said frame; and confirming whether or not said authentication header is valid by comparing said keyed hashed value with the authentication header of said frame (**paragraphs 0060, 0130-0131, and 184**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu as modified by Gehrmann to include the invention as taught by Nuutinen for the purpose of secure transmission.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimizu (US Patent Pub. No.: 2002/0196764 A1)** in view of Gehrmann US Patent No. 6,912,657 B2 and further in view of **(Ocepek et al. US Pub No.: 2004/0049586 A1, "Ocepek" hereinafter)** and further in view of **(Ibi et al. US Pub. No.: 2003/0118189A1, "Ibi" hereinafter)** and further in view of **(Meier US Patent No.: 6,847,620 B1)**

Consider **claim 15** Shimizu teaches a terminal management method for use in a terminal having a neighboring terminal list table for holding the terminal identifier of another terminal with which direct communication is possible among the terminals which form a network (**abstract, paragraphs 0017-0018, 0051nad 0052**); a key management list table having at least one key management list for holding an authentication header key with respect to another ˙ terminal in such a manner as to correspond to the terminal identifier of the other terminal which forms said network(**figures 3-5, paragraphs 0014, 0017-0018, 0020,0052-0056**). However, Shimizu does not specifically teach an Ad Hoc Network.

In the same field of endeavor, Gehrmann teaches an Ad Hoc Network (**i.e., see at least col. 1 lines 9-10, col. 2 line 65 – col. 3 line 16, col. 4 lines 35-36 col. 4 line 60,col. 5 lines 33-35, col. 6 lines 1-10, and col. 8 lines 7-22**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu such that an ad hoc network is established temporary for a special purpose. There is no fixed infrastructure; the nodes are the network. The nodes within the network are often mobile and using radio links. An ad hoc network might constitute dynamic wide area connectivity in situations such as military operations, rescue and recovery operations, and remote construction sites. An ad hoc network might also constitute local area connectivity in situations such as temporary conference sites, home networks and robot networks. An ad hoc network might also constitute personal area networks in situations such as interconnected accessories, ad hoc conference table and games. The nodes might consist of e.g. mobile phones, lap tops, television sets, washing machines In some situations like in military operations or business conferences when the communication between the nodes comprises secrets, it is very important that a sender of a message can trust that the receiver really is the intended receiver as taught by Gehrmann in **col. 2 line 65 – col. 3 line 16.**

However Shimizu as modified by Gehrmann does not disclose means for, when a leaving from said network occurs at the terminals whose terminal identifiers are held in said neighboring terminal list table, deleting from said key management list table said key management list containing the terminal identifier of the terminal that has left the network.

In the same field of endeavor, Ocepek teaches when a leaving from said network occurs at the terminals whose terminal identifiers are held in said neighboring terminal list table the

terminal identifier of the terminal that has left the network (see **figures 14 and 15, paragraphs 0037, 00055, 0066,0068,0074, and 0075**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu as modified by Gehrmann to include the invention of Ocepek for the purpose of access control.

However, Shimizu as modified by Gehrmann and further modified by Ocepek does not teach deleting from said key management list table said key management list.

In the same field of endeavor, Ibi teaches deleting from said key management list table said key management list (**figures 5,19 and 20, paragraphs 0151-0154**)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shimizu as modified by Gehrmann and further modified by Ocepek to include the invention as taught by Ibi for the purpose of processing encryption functions.

However, Shimizu as modified by Gehrmann and further modified by Ocepek and further modified by Ibi does not teach transmitting a terminal leaving message for informing the terminal identifier of said terminal that has left the network to the other terminals which form said network in a case where the terminal whose terminal identifier is held in said neighboring terminal list table leaves the network.

In the same field of endeavor, Meier teaches means for transmitting a terminal leaving message for informing the terminal identifier of said terminal that has left the network to the other terminals which form said network in a case where the terminal whose terminal identifier is held in said neighboring terminal list table leaves the network (**column 5 lines 39 –65**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time

the invention was made to modify Shimizu as modified by Gehrmann and further modified by

Ocepek and further modified by Ibi to the include the invention taught by Meier for the purpose

of efficient networking.

Conclusion

5.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Charles Shedrick whose telephone number is (571)-272-8621.

The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kincaid Lester can be reached on (571)-272-7922. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles Shedrick
AU 2617
July 13, 2006

LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER